AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A communication method for use in a communication network involving several user terminals communicating with at least one transmitter node, said transmitter node comprising a plurality of antennas, each of said user terminals comprising at least one antenna, said method ~~being characterized by~~ comprising;

selecting a first set of user terminals comprising at least one user terminal;

selecting a second set of user terminals not comprised in the first set;

adapting first physical layer communication parameters for the first set of user terminals according to a first principle suitable for optimizing communication with the first set of user terminals~~[[,]]~~;

adapting second physical layer communication parameters, different from the first physical layer communications parameters, for the second set of user terminals according to a second principle, which is different from the first principle, in response to the first physical layer communication parameters ~~selected by~~ for the first set~~[[,]]~~; and

transmitting to the first set of user terminals according to the first physical layer communication parameters and to the second set of user terminals according to the second physical layer communication parameters.

2. (Previously Presented) A method according to claim 1, wherein the first principle involves optimization with respect to full or partial Channel State Information (CSI), for example by Singular Value Decomposition (SVD).

3. (Previously Presented) A method according to claim 1, wherein the second principle makes use of opportunistic MIMO communication.

4. (Previously Presented) A method according to claim 1 wherein the first communication parameters are related to the transmit power and the beamforming matrix at the transmitter side.

5. (Previously Presented) A method according to claim 1, comprising the step of selecting the first set of user terminals in dependence of traffic and quality of service parameters.

6. (Previously Presented) A method according to claim 1, comprising the step of selecting the first set of user terminals in dependence of CSI knowledge.

7. (Previously Presented) A method according to claim 1, comprising the step of selecting the first set of user terminals in dependence of receiver antenna configuration.

8. (Currently Amended) A transmitter node for use in a MIMO based communication network involving several user terminals communicating with the transmitter node, wherein each of said user terminals comprises at least one antenna, said transmitter node comprising a plurality of

transmit antennas arranged to transmit information to a plurality of receiver nodes, said transmitter node comprising:

selection means for selecting a first set of user terminals comprising at least one user terminal and a second set of user terminals not comprised in the first set,

first adaptation means for adapting first physical layer communication parameters for the first set of user terminals according to a first principle suitable for optimizing communication with the first set of user terminals,

second adaptation means for adapting second physical layer communication parameters, different from the first physical layer communications parameters, for the second set of user terminals according to a second principle which is different from the first principle in response to the first physical layer communication parameters selected ~~by~~ for the first set, and

transmit means for transmitting to the first set of user terminals according to the first physical layer communication parameters and to the second set of user terminals according to the second physical layer communication parameters.

9. (Previously Presented) A transmitter node according to claim 8, wherein the first adaptation means is arranged to optimize communication with the first set of user terminals with respect to full or partial Channel State Information (CSI), for example by Singular Value Decomposition (SVD).

10. (Previously Presented) A transmitter node according to claim 8, wherein the second adaptation means is arranged to optimize communication with the second set of user terminals according to opportunistic MIMO communication.

11. (Previously Presented) A transmitter node according to claim 8, wherein the first communication parameters are related to the transmit power and the beamforming matrix at the transmitter side.

12. (Previously Presented) A transmitter node according to claim 8, comprising wherein the selection means is arranged to select the first set of user terminals in dependence of traffic and quality of service parameters.

13. (Previously Presented) A transmitter node according to claim 8, wherein the selection means is arranged to select the first set of user terminals in dependence of CSI knowledge.

14. (Previously Presented) A transmitter node according to claim 8, wherein the selection means is arranged to select the first set of user terminals in dependence of receiver antenna configuration.

15. (Previously Presented) A MIMO based communication network involving several user terminals communicating with at least one transmitter node, said transmitter node comprising a plurality of antennas, each of said user terminals comprising at least one antenna, characterized in that said at least one transmitter node is a transmitter node according to claim 8.

16. (New) A transmitter node for use in a MIMO based communication network involving several user terminals communicating with the transmitter node, wherein each of said user

terminals comprises at least one antenna, said transmitter node comprising a plurality of transmit antennas arranged to transmit information to a plurality of receiver nodes, said transmitter node comprising:

selection circuitry configured to select a first set of user terminals comprising at least one user terminal and a second set of user terminals not comprised in the first set;

first adaptation circuitry configured to adapt first physical layer communication parameters for the first set of user terminals according to a first principle suitable for optimizing communication with the first set of user terminals;

second adaptation circuitry configured to adapt second physical layer communication parameters, different from the first physical layer communications parameters, for the second set of user terminals according to a second principle which is different from the first principle in response to the first physical layer communication parameters for the first set; and

a transmitter for transmitting to the first set of user terminals according to the first physical layer communication parameters and to the second set of user terminals according to the second physical layer communication parameters.

17. (New) A transmitter node according to claim 8, wherein the first adaptation circuitry is arranged to optimize communication with the first set of user terminals with respect to full or partial Channel State Information (CSI) by Singular Value Decomposition (SVD).

18. (New) A transmitter node according to claim 8, wherein the second adaptation circuitry is arranged to optimize communication with the second set of user terminals according to opportunistic MIMO communication.

19. (New) A transmitter node according to claim 8, wherein the first physical layer communication parameters are related to the transmit power and a beam-forming matrix at the transmitter side.

20. (New) A transmitter node according to claim 8, comprising wherein the selection circuitry is arranged to select the first set of user terminals in dependence of traffic and quality of service parameters.

21. (New) A transmitter node according to claim 8, wherein the selection circuitry is arranged to select the first set of user terminals in dependence of CSI knowledge.

22. (New) A transmitter node according to claim 8, wherein the selection circuitry is arranged to select the first set of user terminals in dependence of receiver antenna configuration.